



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Preliminary Report

Location:	Houston, TX	Accident Number:	DCA24FA017
Date & Time:	October 24, 2023, 15:20 Local	Registration:	N510HM (A1); N269AA (A2)
Aircraft:	TEXTRON AVIATION INC 510 (A1); RAYTHEON AIRCRAFT COMPANY HAWKER 850XP (A2)	Injuries:	4 None (A1); 3 None (A2)
Flight Conducted Under:	Part 91: General aviation - Personal (A1); Part 135: Air taxi & commuter - Non-scheduled (A2)		

On October 24, 2023, about 15:20 central daylight time, a Raytheon Hawker 850XP, N269AA, was taking off on runway 22 when its left wing collided with the vertical stabilizer of a Textron Aviation (Cessna) Citation Mustang, N510HM, that was landing on runway 13R at William P. Hobby Airport (HOU), Houston, Texas. Day visual meteorological conditions prevailed at the time of the accident.

There were no injuries to the 2 pilots and 1 passenger aboard N269AA or to the 1 pilot and 3 passengers aboard N510HM. N269AA sustained minor damage and N510HM was substantially damaged during the collision. N269AA was operating as a Title 14 *Code of Federal Regulations* (CFR) Part 135 on-demand passenger flight from HOU to Waukesha County Airport (UES), Waukesha, Wisconsin. N510HM was operating as a Title 14 CFR Part 91 flight from Fulton County Executive Airport/Charlie Brown Field (FTY), Atlanta, Georgia, to HOU.

HOU has intersecting runways, and the local controller had instructed the crew of N269AA to line up and wait (LUAW) on runway 22. The crew of N269AA said in a post-accident interview that they believed they heard that they were cleared for takeoff when they took off. The collision between the two airplanes occurred at the intersection of the two runways, see figure 1.



Figure 1. View of both airplanes flight tracks with the area the ground collision occurred highlighted in yellow. The blue line represents N510HM, and the red line represents N269AA.

According to FAA record of communications, at 1514:12 the crew of N269AA had contacted ground control (GC) requesting clearance to taxi for departure.

About a minute later, the pilot of N510HM checked in with local control (LC) while on a nine-mile final to runway 13R. The local controller then cleared the pilot of N510HM to land. The pilot of N510HM read back the landing clearance.

As N269AA approached runway 22 for departure, about 1515:50, ground control instructed the crew of N269AA to monitor LC frequency. The flight crew stated in their post-accident interview that as they passed taxiway "K2" during their taxi to runway 22 they switched to the LC frequency. As the airplane began the left turn to be perpendicular to the runway, they stated the V-speeds were no longer on the display screens.

At 1517:32 the pilot of N510HM reported a four-mile final.

At 1518:01 the local controller instructed the crew of N269AA to LUAW on runway 22, to which the crew acknowledged. The local controller did not give a traffic advisory to N269AA.

N269AA was in the takeoff roll on runway 22, when the flight data/clearance delivery controller alerted the local controller about N269AA's movement, and at 1519:47 the local controller stated "november nine alpha alpha, stop, hold your position." There was no response from the crew of N269AA, and at 1519:53 the local controller again stated, "alpha, alpha, hold your position, stop," to which there was still no response.

The flight crew from N269AA stated in their post-accident interview they had a rudder bias alert, and a pitch trim alert which they had to resolve as they were in the takeoff roll.

Both crew members in N269AA said that they did not see the Citation Mustang until about 1 second prior to impact and described the feeling of the impact as a "thud." The pilot in the left seat was the pilot flying (PF) and the pilot in the right seat was the pilot monitoring (PM).

At 1520:00, N269AA collided with N510HM. At 1520:14, the local controller began providing instructions to send around all aircraft that were on final approach behind N510HM.

At 1520:29 the crew of N269AA, who had taken off and was in the initial climb, informed local control that they needed to return to the airport, and the local controller provided vectors to return to the airport and land on runway 13R.

At 1521:08 The local controller cleared N269AA to land on runway 13R, and the flight landed otherwise uneventfully.

In the post-accident interview N510HM pilot said that he did not see N269AA airplane but heard a sound similar to a truck tire blowing out on a highway. N269AA crew stated that their airplane did not yaw, and they experienced no controllability issues during the takeoff. They were only aware of damage after parking and exiting the airplane.

Airport Surface Detection Equipment:

HOU tower is equipped with an Airport Surface Detection Equipment – Model X (ASDE-X) system, with displays located at the LC, GC, operations supervisor, and helicopter position workstations.

ASDE-X is a surface movement radar that enables air traffic controllers to detect potential runway conflicts by providing detailed coverage of movement on runways and taxiways. ASDE-X collects data from a variety of sources to track vehicles and aircraft on the airport movement area and obtain identification information from aircraft transponders.

The controllers noticed N269AA's movement before the ASDE-X alert which occurred at 1519:49.

Aircraft Damage Assessment:

Post-accident examination of N269AA revealed that the left wing exhibited impact damage. The titanium leading-edge panel exhibited a "V-shape" aft indentation to the wing front spar with sheet metal remnants of the Cessna Mustang embedded, see figure 2.

N269AA's left-wing winglet remained attached to the left wing. The winglet leading edge exhibited white paint transfer marks and the navigation light lens was impact separated and pieces of the glass were found in the Cessna Mustang's tail cone/stinger. About ten inches of

the top section of N269AA's winglet had separated due to the impact with N510HM, see figure 3.



Figure 2. Close up view of N269AA's left-wing leading-edge damage.



Figure 3. Close up view of N269AA's left winglet/navigation light assembly damage.

Post-crash examination of N510HM revealed that the left side of its tail section had been impacted by the left wing of N269AA. The torn skin on the tail section was consistent with N269AA's wing penetrating the left side of N510HM's tail stinger and exiting the right side, severing a portion of the stinger. The impact damage was isolated to the area of the empennage, see figures 4, 5 and 6.

The impact fractured and separated a section of the aft canted bulkhead. A section of the aft horizontal stabilizer spar, common to the rudder sector attach point, was torn and bent consistent with the wing impact. The rudder sector mount was torn from the structure at the fastener locations.

The rudder torque tube was fracture separated from the rudder control sector and the rudder. The upper and lower left and lower right rudder control cables were broken in a manner consistent with tensile overload. The upper right rudder control cable remained intact, but the ball end was pulled from the rudder sector. The autopilot rudder servo control cable was fractured in tensile overload. The left autopilot cable pulley bracket, with pulley attached, was separated from the canted bulkhead. The left strake was impact fractured from the tail cone stinger and was recovered from the runway along with various sheet metal fragments from the stinger.



Figure 4. Left side view of N510HM's damage to its empennage.



Figure 5. Aft view of N510HM's damage to its empennage.



Figure 6. Right side view of N510HM's damage to its empennage.

The following NTSB specialists have been assigned to investigate the accident: operations, human performance, air traffic control, and cockpit voice recorder (CVR). The Federal Aviation Administration (FAA), National Air Traffic Controllers Union (NATCA), Textron Aviation, DuPage Aerospace Corporation (operator of N269AA), and My Jet DOM, LLC (operator of N510HM), are parties to the investigation.

N269AA was equipped with a CVR, which was removed and sent to the NTSB Vehicle Recorder Laboratory in Washington, DC, for download and analysis. N510HM was not equipped with recorders.

The investigation is continuing.

Aircraft and Owner/Operator Information (A1)

Aircraft Make:	TEXTRON AVIATION INC	Registration:	N510HM
Model/Series:	510	Aircraft Category:	Airplane
Amateur Built:			
Operator:	SB 501 LLC	Operating Certificate(s) Held:	None
Operator Designator Code:			

Aircraft and Owner/Operator Information (A2)

Aircraft Make:	RAYTHEON AIRCRAFT COMPANY	Registration:	N269AA
Model/Series:	HAWKER 850XP	Aircraft Category:	Airplane
Amateur Built:			
Operator:	WHITMORE HOLDINGS LLC	Operating Certificate(s) Held:	On-demand air taxi (135)
Operator Designator Code:			

Meteorological Information and Flight Plan

Conditions at Accident Site:	Condition of Light:
Observation Facility, Elevation:	Observation Time:
Distance from Accident Site:	Temperature/Dew Point:
Lowest Cloud Condition:	Wind Speed/Gusts, Direction: / ,
Lowest Ceiling:	Visibility:
Altimeter Setting:	Type of Flight Plan Filed:
Departure Point:	Destination:

Wreckage and Impact Information (A1)

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	3 None	Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	4 None	Latitude, Longitude:	29.6407,-95.274

Wreckage and Impact Information (A2)

Crew Injuries:	2 None	Aircraft Damage:	Minor
Passenger Injuries:	1 None	Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	3 None	Latitude, Longitude:	29.6407,-95.274

Administrative Information

Investigator In Charge (IIC): Lovell, John

Additional Participating Persons: Todd Gentry; FAA
Dan Carrico; NATCA
Casey Love; Textron Aviation
Scott Southwell; DuPage Aerospace Corporation
Samuel Bacon; My Jet DOM, LLC

Investigation Class: Class 3

Note: